

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT F. MEYERSON and CHEN FENG

Appeal No. 2001-1342
Application 08/994,821

ON BRIEF

Before BARRETT, FLEMING, and BLANKENSHIP, **Administrative Patent Judges**.

FLEMING, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1, 3 through 15 and 17 through 28. Claims 2 and 16 have been canceled.

Invention

The invention relates to a portable data collection device including an imaging dataform reader utilizing multiple target area illumination sources for independent reading of superimposed

dataforms. See page 1 of Appellants' specification. As shown in figure 1, a composite dataform 10 is printed on a dataform area 11. The dataform 10 is comprised of a pattern of ink and non-ink cells that results in overlying or superimposition of two dataforms 16, 18 occupying the same dataform area 11. The first dataform 16 shown in figure 2 is comprised of a pattern of 9 by 9 square shaped cells which are either inked or non-inked. The inked cell 20 is darkened by a dark color visible ink or pigment that absorbs light or radiation in the visible spectrum. See page 9 of Appellants' specification. The second dataform 18 shown in figure 3 is comprised of a pattern of 9 by 9 square shaped cells. The darkened cells are darkened by use of an ultraviolet active ink 24. An ultraviolet active ink is an ink that fluoresces upon being exposed to ultraviolet radiation or light. See page 10 of Appellants' specification.

A portable, hand held data collection device in accordance with Appellants' invention is shown generally as 100 in figures 5 through 12. See page 10 of Appellants' specification. The data collection device 100 includes a board camera assembly 200 including an optic assembly 300 and a target illumination assembly 400. The optic assembly 300 focuses light from the target area 104 onto a two dimensional photosensor array 202 of

the modular board assembly 200 while targeting and illumination assembly 400 includes an illumination assembly 410 for illuminating the target area 104. The illumination assembly 410 includes two illumination sources, a visible light source 412 and an ultraviolet light source 414. See page 11 of Appellants' specification.

In figure 32, a flow chart is shown at 900 which sets forth the processing associated with reading the dataform 10 which includes a first dataform 16 and a second dataform 18. At step 903, a dataform 10 is illuminated by a visible illumination source 412. At step 904, the first dataform 16 is captured. At step 905, the dataform 16 is processed and decoded. If the first dataform 16 is decoded the process proceeds to step 906 in which the visible illumination source is deenergized and the ultraviolet illumination source 414 is alternately energized with the targeting illumination. At step 908, the second dataform 16 is captured. At step 909, the second dataform 18 is processed and decoded. If the decode is successful at step 910 the ultraviolet illumination source 414 is turned off. By using the flow chart as shown in 900, this allows a single two dimensional photosensor array 200 to capture both sets of data. See page 21 of Appellants' specification.

Independent claim 1 present in the application is reproduced as follows:

1. A dataform reader for a portable data collection device, the dataform reader utilizing a single two dimensional imaging assembly adapted to independently image and decode first and second overlying dataforms, the first dataform being imaged when illuminated by illumination having a first wavelength and the second dataform being imaged when illuminated by illumination having a second wavelength, the first and second wavelengths being different, the dataform reader comprising:

a) the single two dimensional imaging assembly including a two dimensional photosensor array, the imaging assembly actuatable to generate a signal representative of an image of a target area of the imaging assembly, the target area image resulting from an illumination pattern received from the target area;

b) the imaging assembly including signal and image processing circuitry for processing and decoding an image of a dataform positioned in the target area;

c) an optic assembly positioned with respect to the imaging assembly to focus the reflected illumination from the target area onto the photosensor array;

d) an illumination assembly including a first illumination source energizable to generate illumination having a first range of wavelengths and a second illumination source energizable to generate illumination having a second range of wavelengths, the first range of wavelengths including the first wavelength and not including the second wavelength and the second range of wavelengths including the second wavelength and not including the first wavelength, the first and second illumination sources being positioned to illuminate the target area when actuated;

e) control and selection circuitry electrically coupled to the imaging assembly and the illumination assembly to actuate the imaging assembly and selectively energize the first illumination

source to image and decode the first dataform and to actuate the imaging assembly and selectively energize the second illumination source to image and decode the second dataform;

f) wherein the first illumination source illuminates the target area with illumination having a spectral output centered about a wavelength in the visible spectrum; and

g) wherein the control and selection circuitry deenergizes the second illumination source while the first illumination source is energized and deenergizes the first illumination source while the second illumination source is energized.

References

Smith	3,492,478	Jan. 27, 1970
Berson et al. (Berson)	5,502,304	Mar. 26, 1996
Barkan et al. (Barkan)	5,506,392	Apr. 9, 1996
Roustaei	5,532,467	Jul. 2, 1996
Xu	5,992,753	Nov. 30, 1999

(filing date Oct. 30, 1997)

Rejection at Issue

Claims 1, 3, 6 through 8, 10 through 15, 17, 20 through 22, and 24 through 28 stand rejected under U.S.C. § 103 as being unpatentable over Xu in view of Berson and Barkan. Claims 4, 5, 18 and 19 stand rejected under 35 U.S.C. § 103 as being unpatentable over Xu, Berson and Barkan, and further in view of Roustaei. Claims 9 and 23 stand rejected under 35 U.S.C. § 103 as being unpatentable over Xu, Berson and Barkan, and further in view of Smith.

Throughout the opinion, we will make reference to the briefs¹ and answer for the respective details thereof.

OPINION

With full consideration being given to the subject matter on appeal, the Examiner's rejection and the arguments of Appellants and Examiner for the reasons stated **infra**, we reverse the Examiner's rejection of claims 1, 3 through 15 and 17 through 28 under 35 U.S.C. § 103.

In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a **prima facie** case of obviousness. **In re Oetiker**, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). **See also In re Piasecki**, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). The Examiner can satisfy this burden by showing that some objective teaching in the prior art or knowledge generally available to one of ordinary skill in the art suggests the claimed subject matter. **In re Fine**, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Only if this initial burden is met does the burden of coming

¹Appellants filed an appeal brief on December 14, 2000. Appellants filed a reply brief on March 12, 2001. The Examiner mailed out an office communication on April 4, 2001, stating that the reply brief has been entered.

forward with evidence shift to the Appellants. **Oetiker**, 977 F.2d at 1445, 24 USPQ2d at 1444. **See also Piasecki**, 745 F.2d at 1472, 223 USPQ at 788.

An obviousness analysis commences with a review and consideration of all the pertinent evidence and arguments. "In reviewing the [E]xaminer's decision on appeal, the Board must necessarily weigh all of the evidence and arguments." **Oetiker**, 977 F.2d at 1445, 24 USPQ2d at 1444. "[T]he Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion." **In re Lee**, 277 F.3d 1338, 1344, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002). With these principles in mind, we commence review of the pertinent evidence and arguments of Appellants and Examiner.

Appellants argue that none of the references applied by the Examiner, alone or in combination, disclose, teach or suggest a dataform reader capable of independently imaging and decoding two overlying dataforms utilizing a single two dimensional image assembly and an illumination assembly including two illumination sources generating two different wavelengths of illumination and wherein control and selection circuitry sequentially actuates the

imaging assembly and energizes the first illumination source to image and decode the first dataform while the second illumination is deenergized and actuates the image assembly and energizes the second illumination source to image the second dataform while the first illumination is deenergized. See pages 12 through 21 of Appellants' brief. Appellants further argue that Xu does not disclose, teach or suggest, nor does it even contemplate reading overlying dataforms utilizing two alternately energizing data sources having different wavelengths. Appellants argue that there is no suggestion or incentive to modify Xu with the teachings of Berson or Barkan to render Appellants' claims obvious. See Appellants' reply brief 3.

The Examiner agrees that Xu does not teach, disclose or suggest reading overlying dataforms utilizing alternately energizing illumination sources having different wavelengths of illumination to image and decode the first dataform using the first illumination source and then to image and decode the second dataform using the second illumination source. See page 4 of Examiner's answer as well as pages 3 and 4 of the final rejection. The Examiner argues that Berson teaches a switching mechanism 56 to enable sequential reading of the indicia. See pages 4 through 6 of the Examiner's answer. The Examiner argues

that one of ordinary skill in the art would modify Xu to have an assembly as taught by Berson which would have two two dimensional image assemblies including two dimensional photo arrays. See page 6 of the final action. The Examiner argues that Barkan teaches the use of a single two dimensional image assembly and it would be obvious to one of ordinary skill in the art at the time to modify the proposed combination of Xu and Berson to utilize a single two dimensional image assembly, since the use of single sensors would provide several benefits, for example, reducing the number of components. See page 6 of the Examiner's final rejection.

As pointed out by our reviewing court, we must first determine the scope of the claim. "[T]he name of the game is the claim." **In re Hiniker Co.**, 150 F.3d 1362, 1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998).

We find that all of Appellants' claims before us require "a single two dimensional image assembly including a two dimensional photosensor array, the imaging assembly actuatable to generate a single representative of an image of a target area of the imaging assembly, the target area image resulting from an illumination pattern received from the target area." Furthermore, we note that all of Appellants' claims recite

control and selection circuitry electrically coupled to the imaging assembly and the illumination assembly to actuate the imaging assembly and selectively energize the first illumination source to image and decode the first dataform and to actuate the imaging assembly and selectively energize the second illumination source to image and decode the second dataform.

See Appellants' independent claims 1, 11, 15 and 25.

As pointed out above, the Examiner relies on Berson for the teaching of control and selection circuitry electrically coupled to the imaging assembly and illumination assembly to actuate the imaging assembly and selectively energize the first illumination source to image and decode the first dataform and to actuate the imaging assembly and selectively energize the second illumination source to image and decode the second dataform. Upon our review of Berson, we fail to find that Berson teaches this limitation. Berson discloses two embodiments. The first embodiment is shown in figure 2. Berson disclose that the information contained in bar codes 21 and 31 may be read by utilizing light source 40. Light source 40 comprises: light sources 41 and 42. Light sources 41 and 42 have different wavelengths. Source 41 is utilized to illuminate bar code 21 and source 42 is used to excite bar code 31. Detector 43 comprises detector 44 and a detector 45. Detector 44 is utilized to sense bar code 21 and detector 45 is utilized to sense bar code 31. Detector 44 senses

reflected light from bar code 21 and detector 45 senses the emitted light from bar code 31. See column 6, line 66, through column 7, line 12. Berson does not disclose or teach or even suggest that visible light source 40 is alternately energized with ultraviolet source 41 as claimed by Appellants.

Berson discloses a second embodiment in figure 3. Berson discloses that figure 3 shows a lower layer indicia is printed on an object with a normal ink and an upper layer indicia is printed above the lower layer-indicia with an invisible ink. The information contained in the lower layer indicia may be read by utilizing light source 51 emitting visible light. Detector 54 senses the reflected light from the lower indicia. The information contained in the indicia 65 may be read by utilizing ultra violet light source 52. Detector 45 senses the emitted light from indicia 65. See column 7, lines 13 through 38. From these teachings, Berson teaches that the reading of the indicia operates similar to the first embodiment in that there is no alternating between light sources.

Berson does disclose that if light source 51 and 52 and detector 54 and 55 are periodically turned on and off approximately 16 times a second by switching mechanism 56, the eagle portion of the indicia will look like it is moving. See

column 7, lines 39 through 42. We agree with the Appellants that this portion of Berson is simply a teaching for the purpose of showing that the light sources turned on and off will require a change in the appearance of the indicia. However, we fail to find that a fair reading of Berson provides any support to the conclusion that the light sources may be alternately energized to read and decode the first dataform and the second dataform as claimed by Appellants.

Appellants further argue that the Examiner has not provided substantial evidence of reasons why one of ordinary skill in the art would make the proposed combination of Xu, Berson and Barkan. See pages 20 through 21 of the brief and pages 10 and 11 of the reply brief.

When determining obviousness, "[t]he factual inquiry whether to combine references must be thorough and searching." **Lee**, 277 F.3d at 1343, 61 USPQ2d at 1433, **citing McGinley v. Franklin Sports, Inc.**, 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001). "It must be based on objective evidence of record" **Id.** "Broad conclusory statements regarding the teaching of multiple references, standing alone, are not 'evidence.'" **In re Dembiczak**, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617. "Mere

denials and conclusory statements, however, are not sufficient to establish a genuine issue of material fact.” **Dembiczak**, 175 F.3d at 999, 50 USPQ2d at 1617, **citing McElmurry v. Arkansas Power & Light Co.**, 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993).

We find that Barkan teaches the use of two LED light sources and one detector. See figure 6 and column 10, lines 61 through 66. Barkan teaches that the purpose is to provide two spots that can be closely aligned and substantially concentric on the surface of the optical information 20. See column 10, line 66 through column 11, line 3. Barkan discloses the purpose of these two spots is to improve a wider range of working angle. As the angle varies, one spot should be sufficiently in focus to provide a valid read, and even if neither is sufficient, information from both spots can be combined to accurately decode the information. See column 3, lines 40 through 47. Barkan does not teach or suggest overlying bar code dataforms. Barkan does not teach or suggest the use of two illumination sources having first wavelength and second wavelength illumination. Barkan is not concerned with alternately providing a single two dimensional image assembly including a two dimensional photo array of data

provided by the first illumination source and then later in time providing data of a second illumination source. We find that Barkan does not suggest to one of ordinary skill in the art to modify the combination of Xu and Berson such that Berson would only have a single two dimensional image assembly including a two dimensional photo array.

Claims 4, 5, 18 and 19 stand rejected under 35 U.S.C. § 103 as being unpatentable over Xu, Berson and Barkan, and further in view of Roustaei. Claims 9 and 23 stand rejected under 35 U.S.C. § 103 a being unpatentable over Xu, Berson and Barkan, and further in view of Smith. We note that claims 4, 5, 9, 18, 19 and 23 recite the above discussed limitation due to their dependency. We note also that the Examiner is relying on the combination of Xu, Berson and Barkan for the above discussed limitations. Therefore, we will not sustain these rejections for the same reasons discussed above.

Appeal No. 2001-1342
Application 08/994,821

In view of the foregoing, we have not sustained the
Examiner's rejection of claims 1, 3 through 5 and 7 through 28
under 35 U.S.C. § 103.

REVERSED

LEE E. BARRETT)	
Administrative Patent Judge)	
)	
)	
)	BOARD OF PATENT
MICHAEL R. FLEMING)	
Administrative Patent Judge)	APPEALS AND
)	
)	INTERFERENCES
)	
HOWARD B. BLANKENSHIP)	
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Appeal No. 2001-1342
Application 08/994,821

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